Mohith Rajesh

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EDUCATION

Carnegie Mellon University, School of Computer Science — Pittsburgh, PA
Master's in Machine Learning and NLP(MIIS, LTI) — *December 2026*

- **Current Courses**: Intro to Machine Learning, Advanced NLP, Deep Learning Systems
- Conducting research on **continual learning** of **LLMs** for RAG and long-context tasks, with emphasis on **contextual faithfulness** (Advisors: Prof. Yonatan Bisk and Prof. Emma Strubell)

PES University — Bangalore, India
Bachelor of Technology in Computer Science and Engineering | GPA: 9.53/10 — *May 2023*

- **Relevant Courses**: Machine Intelligence, Intro to Deep Learning, Statistics for Data Science, Big Data
- **Awards:** Prof. CNR Rao Scholarship (Top 2%, 2/6 times); Prof. MRD Scholarship (Top 20%, 4/6 times)

PUBLICATIONS

- "Weight-based Multi-stream Model for Multi-Modal Video QA", **FLAIRS** Conference Proceedings 36.1 (2023)
- "BEUD: Bifold-Encoder Uni-Decoder Based Network for Anomaly Detection", **IPMU**. CCIS 1602 (2022): 25–36
- "Custom Binary Cross Entropy (CBCE)", Proceedings of the **iiWAS** conference (2021): 319–323

WORK EXPERIENCE

Morgan Stanley — Bangalore, India
Technology Associate — *Jan 2024 – July 2025*
Technology Analyst — *July 2023 – Jan 2024*

- Conceived and prototyped a **React-based chatbot** for Hedge Fund document analysis, powered by a **RAG** pipeline using **Python** and **Llama-Index**, during a hackathon
- Presented the solution to stakeholders, highlighting its potential to reduce manual processing of documents, and earned approval as a business use case, leading to the formation of a dedicated team around the idea
- Led the development by enhancing retrieval accuracy (Table of Contents parsing, dynamic section/page chunking, team-specific terminology integration) and implementing granular citation with annotated PDFs for easy validation
- Accelerated information extraction, cutting manual processing time by **80%** and enabling operational efficiency
- Integrated robust test suites and frameworks, driving **86%** favorable feedback and strong user adoption
- Collaborated with business users to align solutions with real-world workflows; built **agentic pipelines** and fine-tuned **small LMs** to translate AI outputs into Domain Language for rule engine integration
- Enabled rule calculations within **minutes** of fund document onboarding, down from **days** of manual effort

Spring Analyst Intern — *Jan 2023 – July 2023*

- Developed the **Barra Factor Exposure** dashboard (**Angular**) with a **Spring Boot** backend and **Snowflake** integration to unify fragmented counterparty risk tools; deployed on **Azure App Services**
- Collaborated on migrating batch risk computation processes to **Azure Spring Apps**, cutting down processing time from **40–50 minutes** to **6 minutes**, enabling faster risk assessment

Netenrich — Bangalore, India
Intern — *June 2021 – Sep 2021*

- Diagnosed that the **Machine Reading Comprehension** model for **data breach Q&A** produced unreliable answers when context was missing
- Proposed and implemented a novel solution using a **BERT**-based discriminator to evaluate answer relevance, enhancing accuracy by **8%** and reducing false positives by **64%**

RESEARCH PROJECTS

Video Question Answering — May 2022 - Dec 2022

- Devised a **multi-modal** video question-answering model on the TVQA dataset within limited resources
- Optimized the model to use just **17.5M** trainable parameters, achieving **68.07%** test accuracy; comparable to state-of-the-art models of that period with **100M** parameters, demonstrating efficiency in a multi-modal context

Anomaly Detection in Credit Card Transactions — Aug 2020 - Feb 2022

- Addressed fraudulent transaction detection on a highly imbalanced Credit Card dataset (0.172% fraud rate)
- Designed two novel solutions: the **BEUD** hybrid model (Autoencoder + Siamese), improving over Autoencoder, and a **Custom Binary Cross Entropy (CBCE)** loss function, outperforming standard Binary Cross Entropy
- Attained a **10%** test recall improvement with BEUD and a **2%** improvement with CBCE, mitigating false negatives and addressing limitations of baseline approaches

SKILLS

Programming: *Advanced* - Python; *Intermediate* - SQL; *Basic* - Java, C
Machine Learning: TensorFlow, PyTorch, Pandas, Numpy, Sklearn, LlamaIndex, LangChain, Vector DB
Cloud & DevOps Tools: Azure Cloud, Docker, Git, Jenkins, Linux